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## B52C U.S. DEPARTMENT OF AGRICULTURE.

no.5.

## INVESTIGATIONS IN ECONOMIC ORNITHOLOGY.

## CIRCULAR TO RICE GROWERS.

The Department of Agriculture desires the co-operation of Rice Growers in its attempt to secure trustworthy information concerning the extent of the injury annually done the rice crop by certain birds, chiefly the Bobolink or Rice-bird and the Red-winged Black-bird; and in devising some measure or measures, consistent with reasonable economy, for the diminution if not the prevention of this loss.

Information in reply to the following questions is solicited:

- 1. Are you a rice planter?
- 2. If so, how many acres have you under cultivation?
- 3. What is the average yield of rice per acre?
- 4. What do you consider a fair estimate of the average annual loss per acre occasioned by birds?
  - 5. Please cite a few extreme cases.
- 6. What percentage of this loss is due directly to the value of the rice consumed, and what indirectly to the cost of gathering and thrashing the worthless grain?
- 7. What is the average annual cost per acre of measures employed for the prevention or diminution of this loss?
- 8. In addition to the use of firearms and whips, what measures, if any, are employed for this purpose?
- 9. How many 'Bird Minders' are employed annually upon your plantation during the fall invasion of Rice-birds?
- 10. How many pounds of gunpowder are consumed annually during this period?
  - 11. Is shot now used on your plantation? If so, in what quantity?
  - 12. What kind or kinds of birds are most destructive to rice?
- 13. At what time of the year and for how long a period are these birds present?
- 14. What is the greatest number of Rice-birds that you have known to be killed in a single season?
- 15. Does the rice crop on your plantation sustain a loss from the depredations of birds at the time of planting in spring? If so, what is the average loss per acre at this time?

Any information relating to the subject, though not covered by the above questions, will be thankfully received.

DR. C. HART MERRIAM,

Ornithologist.

